

## **REMARKS**

In response to the Final Office Action mailed March 25, 2010 (hereinafter "Office Action")<sup>1</sup>, the response for which is due June 25, 2010, Applicant respectfully requests that this Amendment under 37 C.F.R. § 1.116 be entered by the Examiner, placing the claims in condition for allowance. Applicant respectfully requests reconsideration and reexamination of this application and the timely allowance of the pending claims.

### **I. Status and Disposition of Claims**

In the instant application, claims 1, 3, 6-10, 12, 13, 15-31, 34, 35, and 40-42 are pending.<sup>2</sup> Of these pending claims, claims 1, 10, and 21 are independent. In the Office Action, the following actions were taken:

- Claims 1, 3-4, 6-10, 12-13, 15-28<sup>3</sup>, 30-31, 34-35, and 40-42 were rejected under 35 U.S.C. § 102(b) as being unpatentable over Shoup et al. (U.S. Patent No. 6,108,657 - hereinafter "*Shoup*"). See Office Action at pages 2-27.
- Claims 29<sup>4</sup>, 32, and 36 were rejected under 35 U.S.C. § 103(a) as being unpatentable under *Shoup* and further in view of Diamond et al. (U.S. PG Pub 20020116299 - hereinafter "*Diamond*"). See Office Action at page 28.

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<sup>1</sup> The Office Action contains a number of statements reflecting characterizations of the related art and the claims. Regardless of whether any such statement is identified herein, Applicant declines to automatically subscribe to any statement or characterization in the Office Action.

<sup>2</sup> Although claim 28 is erroneously omitted from the list of pending claims in the Office Action Summary on page 1 of the Office Action, it is correctly identified as pending in the Detailed Action on page 2.

<sup>3</sup> Although claim 28 is not listed as rejected under 35 U.S.C. § 102(b) on page 2 of the Office Action, its rejection under that section is discussed at page 25. Accordingly, Application treats claim 28 as rejected under 35 U.S.C. § 102(b).

<sup>4</sup> Although claim 29 is identified as being rejected under 35 U.S.C. § 102(b) on page 2 of the Office Action, the Office Action contains no discussion of its rejection under that section. See Office Action at pages 2-27. In addition, at page 28, claim 29 is identified as being rejected under 35 U.S.C. § 103(a), and its rejection under that section is discussed on page 28. Accordingly, Applicant treats claim 29 as rejected under 35 U.S.C. § 103(a).

## **II. Amendments**

In this Amendment and Response to the Office Action, Applicant cancels claims 40-42 and amends claims 1, 8, 10, 17, 18, 19, 21, 23, and 25. Upon entry of the amendments, claims 1, 3, 6-10, 12, 13, 15-27, 29-31, 34, and 35 will remain pending in this application.

Support for the claim amendments may be found, among other places, in the Specification as filed at page 11, line 23 - page 12, line 5; page 13, lines 12-14; and page 19, line 11 - page 20, line 5.

Applicant submits that the proposed amendments of claims do not raise new issues or necessitate the undertaking of any additional search of the art by the Examiner, since all of the elements and their relationships claimed were either earlier claimed or inherent in the claims as examined. Therefore, this Amendment should allow for immediate action by the Examiner.

Finally, Applicant submits that the entry of this Amendment would place the application in better form for appeal, should the Examiner dispute the patentability of the pending claims.

## **III. Response to Rejections**

Based on the reasoning presented below, Applicant respectfully traverses the above-identified rejections of the claims and requests the withdrawal of the rejections, reconsideration of the application, and the timely allowance of the pending claims.

**a. The Rejection Of Claims 1, 3-4, 6-10, 12-13, 15-28, 30-31, 34-35, and Under 35 U.S.C. §102 Should Be Withdrawn.**

Applicant respectfully traverses the rejection of claims 1, 3-4, 6-10, 12-13, 15-28, 30-31, and 34-35 under 35 U.S.C. §102 for allegedly being unpatentable over *Shoup*.

Claim 1 as amended is directed to a “method for generating a multi-dimensional data structure in order to access data stored at a plurality of data sources, said plurality of data sources being disparate, having disparate source data structures, and having a different number of dimensions than said multi-dimensional data structure.” *Shoup* fails to teach or suggest the following elements that are recited in amended claim 1:

- “access[ing] data stored at a plurality of data sources [that are] disparate [and has] disparate source data structures”;
- “bridging the gap by . . . obtaining, from one of the plurality of data sources, a further data item for mapping to one of the data items in the first set, wherein the further data item is not originally obtainable in the second set of data items and is generated from one or more of the plurality of data sources”;
- “bridging the gap by . . . modifying the multi-dimensional data structure to be further defined by the second set of data items”; and
- “bridging the gap by . . . converting a source data structure in at least one of the plurality of data sources into a source data structure defined by at least one data item in the first set of data items.”

**i. *Shoup* Does Not Disclose That Data Are “Stored At A Plurality Of Data Sources” Or That The Plurality Of Data Sources Are “Disparate [And Have] Disparate Source Data Structures.”**

The Office Action alleged that *Shoup* discloses the claimed “plurality of data sources.” However, *Shoup* does not teach or suggest that data are “stored at a plurality of data sources”, or that the plurality of data sources are “disparate [and has] disparate source data structures,” as recited in amended claim 1.

*Shoup* discloses a “record management system . . . for generating a multi-dimensional view for different measures. A set of records is retrieved in response to a set of queries.” See *Shoup*, Abstract. The record management system generates a “record structure foundation,” which is used “to generate a multi-dimensional layout mapping for the measures that are to be represented in the view. The record structure foundation and measure values in the master table are used to convert the layout mapping into the desired multi-dimensional view.” *Shoup*, Abstract.

The Office appear to analogize *Shoup*’s “queries” with the recited “plurality of data sources.” However, this is not correct. Data are not **stored at Shoup’s queries**, as required of the data sources recited in amended claim 1. *Shoup* discloses, in response to a query, extracting data from database 214 and storing the extracted data in master table 202 within the record management system. See *Shoup* 9:54 - 10:20. Neither *Shoup*’s “database 214,” from which the data is extracted, nor *Shoup*’s “master table 202,” in which the data are stored, may be correctly analogized to the recited “plurality of data sources,” because neither are “a plurality of data sources [that are] **disparate**” or “**hav[e] disparate source data structures**,” as recited in claim 1.

*Shoup* discloses:

- “The database 214 contains records that are to be used by the record management system 200 in providing multi-dimensional views. The database management system 213 extracts records from the database 214 in response to queries” (*Shoup* 9:17-23).
- “The records being maintained by the master table 202 are records that have been retrieved from the database 214 via the database management system’s response to a set of queries” (*Shoup* 9:54-57).
- “In response to a query, the database management system 213 extracts records from the database 214 that conform to the measure and dimension requirements called for in the query. . . . In the record

management system 200, the query engine 210 receives the extracted records and transfers them to the master table 202 to be maintained” (*Shoup* 10:1-8).

- “The record of queries is maintained in the query map storage unit 203 . . . in a query map record [that] identifies a query and the dimensions and measures called for in the query” (*Shoup* 10:11-20).
- “[T]he metadata storage unit 207 contains information about the data in the database 214. Such information may include a list of dimensions represented in the database 214, hierarchical relationships between the dimensions, and measures that are represented in the database 214” (*Shoup* 11:56-62).

Thus, *Shoup* discloses storing its records in a single data source, database 214 and extracting records from that database in response to queries. Whether or not *Shoup*’s master table 202 could be considered a data source for accessing data , *Shoup* fails to disclose the recited “data stored **at a plurality of data sources**, said plurality of **data sources being disparate [and] having disparate source data structures.**” Claim 1, emphasis added.

ii. ***Shoup* Does Not Disclose “Bridging The Gap By . . . Obtaining, From One Of The Plurality Of Data Sources, A Further Data Item . . . Not Originally Obtainable In The Second Set Of Data Items And . . . Generated From One Or More Of The Plurality Of Data Sources.”**

*Shoup* fails to teach or suggest “bridging the gap [by] obtaining, from one of the plurality of data sources, a further data item . . . not originally obtainable in the second set of data items and . . . generated from one or more of the plurality of data sources,” as recited in amended claim 1. The Office Action cited *Shoup* as teaching “obtaining, from one of the data sources, a further data item not originally obtainable in the second set of data items.” However, *Shoup* does not disclose the recited “obtaining, from one of the **plurality of** data sources, a further data item . . . not originally obtainable in the

second set of data items and . . . generated from one or more of the **plurality of** data sources.” Claim 1, emphasis added.

The Office Action quotes *Shoup* at 10:31-40 to demonstrate *Shoup*’s allegedly obtaining the further data item. See Office Action at 5. *Shoup* discloses that

After **new records** are placed in the master table 202 **in response to a new query**, the index engine 211 reviews each new record. If the index engine encounters a dimension value that does not already have a corresponding index record, then a new dimension index record is created for the dimension value. If the index engine encounters a dimension value that already has a corresponding dimension index record, then the existing dimension index record is updated to account for the new record.

See *Shoup* 10:31-40. The *Shoup* index record disclosed at 10:31-40 is a record that has been retrieved from the database 214 **in response to a new query**. As discussed above, the database 214 is always the source for the records for the view being generated by *Shoup*. The *Shoup* record is not a new record in the database 214; instead, it is only new to the master table 202 and to the view generated by the “record management system.” Further, as discussed above, the *Shoup*’s “database 214,” from which the data is extracted, is not the recited plurality of data sources with which the second set of data items is associated. See *Shoup*, Abstract. Accordingly, the *Shoup* “new record” is not the recited “further data item . . . not originally obtainable in the second set of data items.” Further, the *Shoup* “new record” is also not the “further data item . . . generated from one or more of the plurality of data sources” recited by amended claim 1.

The Office Action also cites *Shoup* 10:30-67, 13:27-48, and 14:1-17 to support its position. However, all of these cited locations in the *Shoup* specification and the figures disclose the same processing of records retrieved from the database 214 **“in response**

to a new query.” Accordingly, *Shoup* does not disclose the recited “bridging the gap [by] obtaining, from one of the plurality of data sources, a further data item . . . **not originally obtainable in the second set of data items and . . . generated from one or more of the plurality of data sources.**” Claim 1, emphasis added.

iii. ***Shoup* Does Not Disclose “Bridging The Gap By . . . Modifying The Multi-Dimensional Data Structure To Be Further Defined By The Second Set Of Data Items.”**

The Office Action alleged that *Shoup* discloses the claimed “bridging the gap by . . . modifying the multi-dimensional data structure to be further defined by the second set of data items.” However, as recited in claim 1, the second set of data items are defined to “comprise data items **associated with the plurality of data sources.**” Emphasis added. As discussed above, *Shoup* does not disclose the recited “plurality of data sources.” Therefore, *Shoup* does not disclose “modifying the multi-dimensional data structure to be further **defined by the second set of data items.**” Claim 1, emphasis added.

iv. ***Shoup* Does Not Disclose “Bridging The Gap By . . . Converting A Source Data Structure In At Least One Of The Data Sources Into A Source Data Structure Defined By At Least One Data Item In The First Set Of Data Items.”**

The Office Action cited *Shoup* as teaching the earlier recited element, “bridging the gap by . . . converting a source data structure in at least one of the data sources into a data structure.” However, *Shoup* does not disclose the recited “converting a source data structure in at least one of the data sources into **a source data structure defined by at least one data item in the first set of data items.**”

The Office Action quotes *Shoup* at 6:47-51 to demonstrate *Shoup*'s alleged source data structure conversion. See Office Action at 6. *Shoup* 6:47-51 discloses "convert[ing] the layout mapping into a multi-dimensional view." The *Shoup* 6:47-51 multi-dimensional view is the **view** generated by the "record management system." See *Shoup*, Abstract. It is not the "convert[ed] **source data structure** defined by at least one data item in the first set of data items" recited by amended claim 1.

The Office Action also cites *Shoup* at 11:7-15, 11:40-48, 19:56-65, 21:44-55, and Fig. 8 to support its position. However, all of these locations in the *Shoup* specification and figures disclose the same "conver[sion of] the layout mapping into a multi-dimensional view." Again, the multi-dimensional view referred to by *Shoup* is not the "convert[ed] **source data structure** defined by at least one data item in the first set of data items" recited by amended claim 1. Accordingly, *Shoup* does not disclose the recited "converting a source data structure in at least one of the data sources into a source data structure defined by at least one data item in the first set of data items."

For at least these reasons, anticipation of claim 1 by *Shoup* has not been established. The rejection of claim 1, and currently pending related dependent claims 3-4, 6-9, and 27-28, under 35 U.S.C. §102 as being anticipated by *Shoup* is thus improper and should be withdrawn. Independent claims 10 and 21, although of different scope, recite elements that are similar to claim 1. Therefore, the rejection of claim 10, and currently pending related dependent claims 12-13, 15-20, and 30-31, and the rejection of claim 21, and currently pending related dependent claims 22-26 and 34-35 under 35 U.S.C. §102 as being anticipated by *Shoup* are also improper and should be withdrawn.



**b. The Rejection Of Claims 8, 19, and 25 Under 35 U.S.C. §102 Should Be Withdrawn.**

Additionally, Applicant respectfully traverses the rejection of claims 8, 19, and 25 under 35 U.S.C. §102 as being as allegedly being unpatentable over *Shoup*, because *Shoup* fails to teach or suggest “creating a mapping file for historic data conservation,” as recited in amended claim 8.

The Office Action quotes *Shoup* at 13:27-34 to demonstrate *Shoup*’s allegedly creating a mapping file for historic data conservation. See Office Action at 9. *Shoup* at 13:27-34 discloses “updat[ing] the query map 203 . . . so that it contains a record of the most recently performed query.” The *Shoup* “query map” is defined in *Shoup* as “includ[ing] a query map record for each query in the set of queries. A query map record identifies a query and the dimensions and measures called for by the query.” As discussed above, the *Shoup* “query” is not the same as the recited data sources. It can be seen that the *Shoup* “query map,” storing information about queries, is not the recited “mapping file for historic data conservation.”

The term “historic data conversion” is amply defined in the Specification. See, for example, at page 19, lines 9-16 of the Specification:

In step 318, mapping files may be generated. The mapping files may be used for historic data conversation. **Relationships between data items in different data models based on mapping may be stored as mapping files.** The use of these mapping files for historical conversation may be accomplished, for example, **by using historical data to generate data items based on the historical data and the relationship defined by the mapping stored in the mapping file. This exercise may be needed, for example, when historical data are needed for comparison to current data figures.**

Emphasis added. Thus, historical data and the relationships between data items in historical data sources may be used to facilitate generation of new data items from historical **data sources**.

The Office Action also asserted that “the phrase ‘historic data conversion’ needs further elaboration.” Office Action at page 9. Even though the term “historic data conversion” is amply defined in the Specification, in the interests of expedited prosecution, Applicant amends claim 8 to further recite that the “mapping file is configured to store relationships between data items in historical data sources for use in generating new data items from historical data sources.” Thus it can be seen that the *Shoup* “query map,” which contains information about queries, does not teach or disclose is not the same as a “mapping file stor[ing] relationships between data items in historical data sources for use in generating new data items from historical data sources,” as recited in amended claim 8. Therefore, the rejection of claim 8 under 35 U.S.C. §102 as being anticipated by *Shoup* is also improper and should be withdrawn.

Claims 19 and 25, although of different scope, recite elements that are similar to claim 9, and have been similarly amended. Therefore, the rejection of claims 19 and 25 under 35 U.S.C. §102 as being anticipated by *Shoup* are also improper and should be withdrawn.

**c. The Rejection Of Claims 27, 30, and 34 Under 35 U.S.C. §102 Should Be Withdrawn.**

Additionally, Applicant respectfully traverses the rejection of claims 27, 30, and 34 under 35 U.S.C. §102 as being as allegedly being unpatentable over *Shoup* because

*Shoup* fails to teach or suggest “document[ing] how the gap is bridged,” as recited in claim 27.

The Office Action quotes *Shoup* at 11:42-47 and 16:47-50 to demonstrate *Shoup*’s allegedly documenting how the gap is bridged. See Office Action at 25. *Shoup* at 11:42-47 and 16:47-50 discloses how the view is loaded with data and displayed. “Each measure result is loaded into a corresponding cell in the layout mapping storage unit 205. One the axis displays are forms, and the cells are loaded, the display unit 206 displays the view.” *Shoup* 11:44-47.

The Office Action asserts that “the [*Shoup*] system takes into account that there are multiple different data or dimensions collected from other sources and finds ways to solve such differences.” Office Action at 25. Even assuming the Office Action’s characterization of *Shoup* correct, which Applicant does not concede, *Shoup*’s disclosure of how a view is populated does not disclose documenting those “ways [found] to solve such differences,” nor does it disclose documenting how to bridge a gap between a “first set of data items [defining a] multi-dimensional data structure [, and a] second set of data items . . . compris[ing] data items associated with the plurality of data sources,” as recited in claim 1, from which claim 27 depends.

For example, *Shoup*’s disclosure of how to populate the view does not disclose or teach documenting use of the bridging methods recited in claim 1:

- obtaining, from one of the plurality of data sources, a further data item for mapping to one of the data items in the first set, wherein the further data item is not originally obtainable in the second set of data items and is generated from one or more of the plurality of data sources;
- modifying the multi-dimensional data structure to be further defined by the second set of data items; and

- converting a source data structure in at least one of the plurality of data sources into a source data structure for another data source defined by at least one data item in the first set of data items.

Thus, it can be seen that the *Shoup* disclosure of populating the view does not teach or disclose “documenting how the gap is bridged,” as recited in claim 27.

Accordingly, the rejection of claim 27 under 35 U.S.C. §102 as being anticipated by *Shoup* is also improper and should be withdrawn.

Claims 30 and 34, although of different scope, recite elements that are similar to claim 27. Therefore, the rejection of claims 30 and 34 under 35 U.S.C. §102 as being anticipated by *Shoup* are also improper and should be withdrawn.

**d. The Rejection Of Claims 29, 32, and 36 Under 35 U.S.C. §103 Should Be Withdrawn.**

Applicant respectfully traverses the rejection of claims 29, 32, and 36 under 35 U.S.C. §103 as being obvious from *Shoup* in view of *Diamond*. Claims 29, 32, and 36 depend indirectly from, claims 1, 10, and 21, respectively, and thus include all the elements and limitations thereof. As discussed above in the discussion of the rejection under 35 U.S.C. §102, *Shoup* does not teach or suggest at least the following recited elements:

- that data are “stored at a plurality of data sources” and that the plurality of data sources are “disparate [and has] disparate source data structures”;
- “obtaining, from one of the plurality of data sources, a further data item . . . generated from one or more of the plurality of data sources”;
- “modifying the multi-dimensional data structure to be further defined by the second set of data items”; and
- “converting a source data structure in at least one of the data sources into a source data structure defined by at least one data item in the first set of data items”;

as recited in amended claim 1.

The Office Action cited *Diamond* as teaching “the centralized database . . . located at a central office.” Office Action at 27. Even assuming the Office Action’s characterization of *Diamond* is correct, which Applicant does not concede, *Diamond* does not make up for the deficiencies of *Shoup*. Specifically, *Diamond* does not teach, disclose or suggest the above-quoted elements of amended claim 1. Therefore, modifying *Shoup* in view of the teachings of *Diamond* by incorporating the dependent claim elements of claims 29, 32, and 36 into *Shoup* would not result in the invention recited therein as a whole.

For at least this reason, no *prima facie* case of obviousness has been established. The rejection of claim 29, 32, and 36 under 35 U.S.C. §103 as being obvious from *Shoup* in view of *Diamond* is thus improper and should be withdrawn.

#### **IV. Conclusion**

In view of the foregoing amendments and remarks, Applicant respectfully requests reconsideration and reexamination of this application and the timely allowance of the pending claims.

Applicant respectfully requests that this Amendment under 37 C.F.R. § 1.116 be entered by the Examiner, placing the claims in condition for allowance. Applicant submits that the proposed amendments of the claims do not raise new issues or necessitate the undertaking of any additional search of the art by the Examiner. Therefore, this Amendment should allow for immediate action by the Examiner.

Finally, Applicant submits that the entry of the amendment would place the application in better form for appeal, should the Examiner dispute the patentability of the pending claims.

In view of the foregoing remarks, Applicant submits that this claimed invention, as amended, is neither anticipated nor rendered obvious in view of the prior art references cited against this application. Applicant therefore requests the entry of this Amendment, the Examiner's reconsideration and reexamination of the application, and the timely allowance of the pending claims.

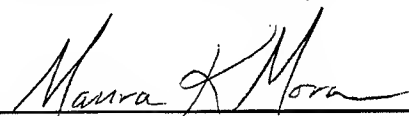
Please grant any extensions of time required to enter this response and charge any additional required fees to Deposit Account 06-0916.

Respectfully submitted,

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Dated: May 19, 2010

By: \_\_\_\_\_

  
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